

FACT SHEET FOR NPDES PERMIT WA0000019

FACILITY NAME Great Western Malting Co.

SUMMARY

Issuance Date: June 6, 2002

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INTRODUCTION

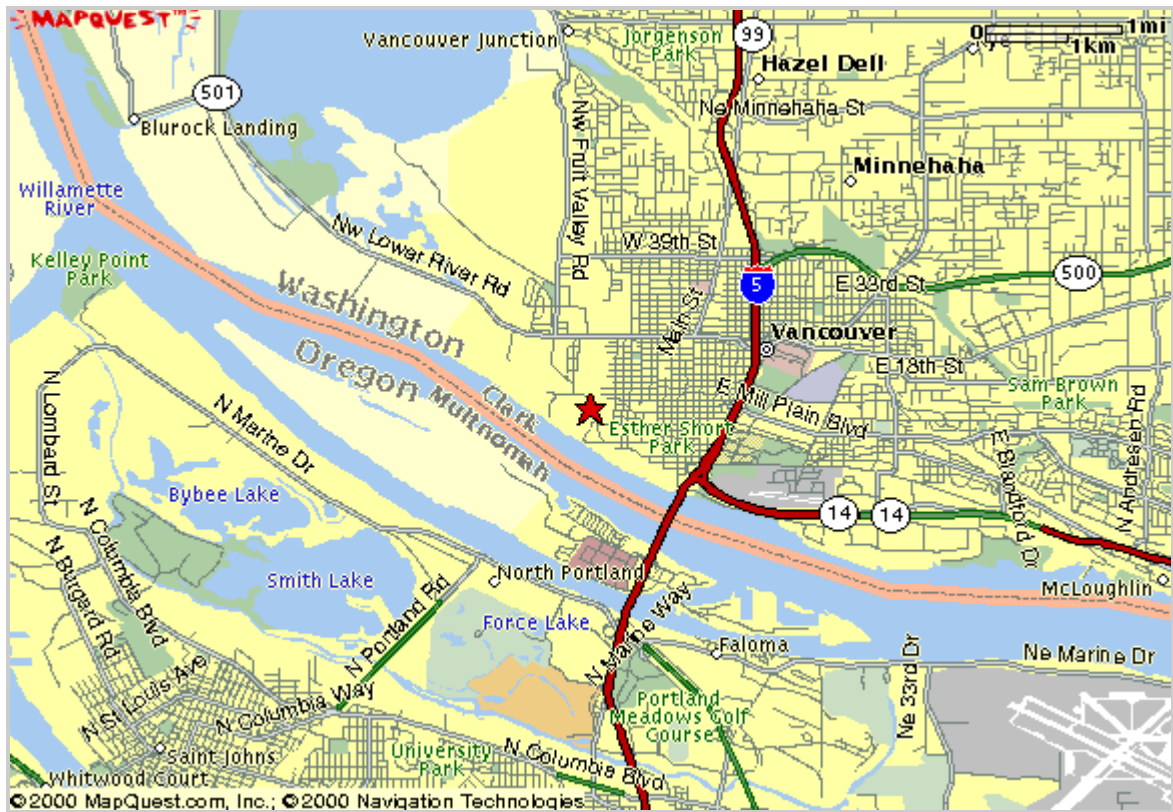
The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System of permits (NPDES permits), which is administered by the Environmental Protection Agency (EPA). The EPA has delegated responsibility to administer the NPDES permit program to the State of Washington on the basis of Chapter 90.48 RCW which defines the Department of Ecology's authority and obligations in administering the wastewater discharge permit program.

The regulations adopted by the State include procedures for issuing permits (Chapter 173-220 WAC), water quality criteria for surface and ground waters (Chapters 173-201A and 200 WAC), and sediment management standards (Chapter 173-204 WAC). These regulations require that a permit be issued before discharge of wastewater to waters of the state is allowed. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the permit. One of the requirements (WAC 173-220-060) for issuing a permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet. Public notice of the availability of the draft permit is required at least thirty days before the permit is issued (WAC 173-220-050). The fact sheet and draft permit are available for review (see [Appendix A--Public Involvement](#) of the fact sheet for more detail on the Public Notice procedures).

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in this review have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Comments and the resultant changes to the permit will be summarized in Appendix D--Response to Comments.

GENERAL INFORMATION	
Applicant/Facility Name:	Great Western Malting Co.
Address:	P.O. Box 1529, Vancouver, Washington 98668 (1701 Industrial Way, Vancouver, Washington 98660)
County:	Clark
Type of Facility:	Manufacturing malt from barley and other grains
SIC Code:	2083, Malt manufacturing
Discharge Location:	Waterbody name: Columbia River at Mile 105.2 Latitude: 45° 37' 50" N. Longitude: 122° 41' 36" W.
Water Body ID Number:	WA-CR-1010

Figure 1 Great Western Malting Co. location (star)



BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

HISTORY

Great Western Malting Co. (GWM) operates a malt manufacturing facility in Vancouver, Washington. The facility has been in operation since 1933. The facility is located in an industrial area along the Columbia River on the Port of Vancouver property.

INDUSTRIAL PROCESS

GWM manufactures malt from barley and other grains. The facility has a production capacity of approximately 155,000 metric tons of brewer's malt from barley annually. Approximately 9.5 million gallons per day (MGD) of groundwater is used in the facility as non-contact cooling water. The water is pumped from three on-site supply wells and stripped of perchloroethylene (Cl₂C:CCl₂) before being used. The water is used to bring the humidity in the Air Washers to 95-100 percent while holding the temperature at a constant of 56° F. The air washers are vented to the atmosphere. An estimated 5 percent of the total non-contact cooling water is lost to the atmosphere. From the Air Washers the non-contact cooling water flows to a sump, where some of the flow is diverted for use as process water in washing and steeping barley in the manufacture of brewer's malt. The rest of the water (approximately 8.5 MGD) is discharged to Columbia River as non-contact cooling water.

Sodium hypochlorite (NaOCl) is used as an additive to the non-contact cooling water to inhibit the growth of mold in the non-contact cooling water chambers. An estimated 5,000 gallons of 12% sodium hypochlorite is used as non-contact cooling water additive each year. Use of sodium hypochlorite raises total residual chlorine (TRCl) to approximately 0.5 milligrams per liter (mg/L).

The facility has 98 full-time employees.

DISCHARGE OUTFALL

GWM discharges non-contact cooling water and stormwater to the Columbia River and process wastewater to the City of Vancouver Pretreatment Lagoon and then on to City of Vancouver Westside Treatment Plant. The discharge of non-contact cooling water is allowed under a NPDES permit No. WA0000019. The industrial storm water discharge is allowed under a general NPDES permit No. SO3000310. The process wastewater is discharged in accordance with City of Vancouver Permit No. 93-11.

PERMIT STATUS

The previous permit for this facility was issued on April 9, 1998 and modified for temperature limitation on January 5, 2001. The previous permit placed effluent limitations as indicated in Table 1.

Table 1 The previous permit effluent limitations

EFFLUENT LIMITATIONS: OUTFALL # 001		
Parameter		Maximum Daily ^a
Flow	Millions gallons per day (MGD ¹)	9.9

¹ Millions gallons per day

EFFLUENT LIMITATIONS: OUTFALL # 001		
Parameter		Maximum Daily^a
Total Residual Chlorine (TRCl)	Micrograms per liter ($\mu\text{g/L}^2$)	11
^b Temperature	Degrees Fahrenheit ($^{\circ}\text{F}^3$)	60 ⁴ /68 ⁵
pH	Standard Units (SU)	In the range between 6 and 9
^a The maximum daily effluent limitation is defined as the highest allowable daily discharge.		
^b This is the interim limitation during the compliance schedule beginning on the modification date and lasting through the expiration date of this permit.		

An application for permit renewal was submitted to the Department on December 31, 2001 and accepted by the Department on January 15, 2002.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The facility last received an inspection on July 18, 2001.

During the history of the previous permit, the Permittee has remained in substantial compliance (Table 2) based on Discharge Monitoring Reports (DMRs) submitted to the Department and inspections conducted by the Department.

Table 2 Summary of compliance with the previous permit

Date	Monitoring Parameter	Sample Measurement	Permit Requirement
August 1998	TRCl	17	11
March 1999	Ammonia	Not reported	Report
January 1999	pH	5.8	Within the range of 6.0 to 9.0
July 1998	Temperature	61.8°F	60°F

The following Figure 2 shows the facility compliance history based on Discharge Monitoring Reports (DMRs) submitted to the Department and inspections conducted by the Department. The data presented is for the last three years and five months. The facility has always been in compliance with the flow limitation of 9.9 MGD. All temperature measurements prior to April 1997 were taken at the supply wells. Since April 1997, temperatures were measured at the outfall.

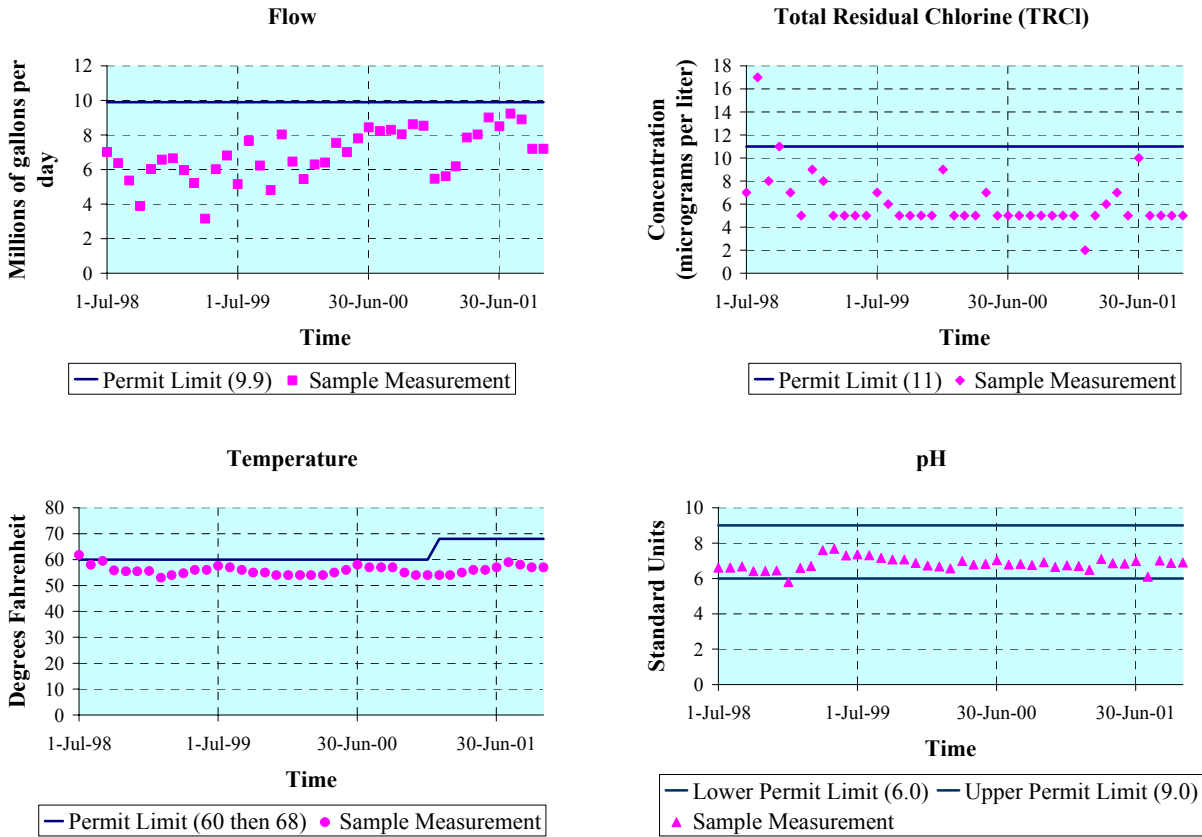
² Micrograms per liter

³ Degree Fahrenheit

⁴ Temperature limitation before permit modification

⁵ Temperature limitation after permit modification

Figure 2 Compliance history



WASTEWATER CHARACTERIZATION

The proposed wastewater discharge is characterized in for the following regulated parameters:

Table 3: Wastewater Characterization

Pollutant or Parameter	Units	Maximum Daily Value	Method Detection Limit	Number of Measurements Taken (last year)	Surface Water Quality Criterion /Permit Limit
Flow	MGD	9.2		Daily	9.9 (limit)
Total Residual Chlorine (TRCl)	µg/L	10	5	51	11.0 (chronic criterion and limit)
Temperature	°F ⁶	59		Daily	20/18 (criterion/limit)

⁶ Degree Fahrenheit

Pollutant or Parameter	Units	Maximum Daily Value	Method Detection Limit	Number of Measurements Taken (last year)	Surface Water Quality Criterion /Permit Limit
pH	S.U.	6.8-7.85		Daily	Within the range of 6.0 to 9.0 (limit)
5-day 20°C Biochemical Oxygen Demand (BOD ₅)	mg/L ⁷	ND ⁸	1.5	1	None
Ammonia Nitrogen	mg/L	ND	0.3	12	Formula (criterion)
Total Suspended Solids (TSS)	mg/L	3.	1.	1	None
Total Oil & Grease	mg/L	ND	3.	1	None
Fecal Coliform	/100mL ⁹	ND	2	1	100 (criterion)
Chemical Oxygen Demand (COD)	mg/L	ND	15.	1	None
Total Organic Carbon (TOC)	mg/L	ND	0.8	1	None
Residual Chlorine	mg/L	ND	0.005	1	None
Total Chlorine	mg/L	ND	0.005	1	None
Chloramine	mg/L	ND	0.005	1	None

PROPOSED PERMIT LIMITATIONS

Federal and State regulations require that effluent limitations set forth in a NPDES permit must be either technology- or water quality-based. Technology-based limitations are based upon the treatment methods available to treat specific pollutants. Technology-based limitations are set by regulation or developed on a case-by-case basis (40 CFR 125.3, and Chapter 173-220 WAC). Water quality-based limitations are based upon compliance with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC), Sediment Quality Standards (Chapter 173-204 WAC) or the National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992). The more stringent of these two limits must be chosen for each of the parameters of concern. Each of these types of limits is described in more detail below.

The limits in this permit are based in part on information received in the application. The effluent constituents in the application were evaluated on a technology- and water quality-basis. The limits necessary to meet the rules and regulations of the State of Washington were determined and included in

⁷ Milligrams per liter

⁸ Not detected

⁹ Per one hundred milliliters

this permit. Ecology does not develop effluent limits for all pollutants that may be reported on the application as present in the effluent. Some pollutants are not treatable at the concentrations reported, are not controllable at the source, are not listed in regulation, and do not have a reasonable potential to cause a water quality violation. Effluent limits are not always developed for pollutants that may be in the discharge but not reported as present in the application. In those circumstances the permit does not authorize discharge of the non-reported pollutants. Effluent discharge conditions may change from the conditions reported in the permit application. If significant changes occur in any constituent, as described in 40 CFR 122.42(a), the Permittee is required to notify the Department of Ecology. The Permittee may be in violation of the permit until the permit is modified to reflect additional discharge of pollutants.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

In accordance with WAC 173-220-150 (1)(g), flows or waste loadings shall not exceed approved design criteria. An engineering report was submitted to the Department in September 1997 for an in-line dechlorination system utilizing sodium bisulfite (NaHSO_3). The predicted effluent total residual chlorine (TRCl) was expected to meet the water quality standard of 11 $\mu\text{g/L}$ and would usually be at or near the detection level. With one exception during August 1998, 11 $\mu\text{g/L}$ limit was always met.

There is a one-minute mixing and reaction time available in the discharge channel between the point of addition of NaHSO_3 and the point of measurement of the effluent TRCl. Mixing is accomplished by the turbulence present in the existing inverted siphon across the railroad. The system is designed to handle a maximum of 9.5 MGD of flow. The amount of NaHSO_3 added is a function of the influent TRCl concentration and the magnitude of the flow. This amount of NaHSO_3 added is adjusted by sending a signal to the controller pumps from an in-line flow measurement device and an in-line oxidation/reduction potential probe. The average influent TRCl is expected to be at 0.5 mg/L. The effluent TRCl would meet the water quality standard of 11 $\mu\text{g/L}$. However, the effluent TRCl concentration is generally expected to be at or below the detection level.

SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's surface waters, WAC 173-201A-060 states that waste discharge permits shall be conditioned such that the discharge will meet established Surface Water Quality Standards. The Washington State Surface Water Quality Standards (Chapter 173-201A WAC) is a state regulation designed to protect the beneficial uses of the surface waters of the state. Surface water quality-based effluent limitations may be based on an individual waste load allocation (WLA) or on a WLA developed during a basin wide total maximum daily loading study (TMDL).

NUMERICAL CRITERIA FOR THE PROTECTION OF AQUATIC LIFE

"Numerical" water quality criteria are numerical values set forth in the State of Washington's Water Quality Standards for Surface Waters (Chapter 173-201A WAC). They specify the levels of pollutants allowed in a receiving water while remaining protective of aquatic life. Numerical criteria set forth in the Water Quality Standards are used along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limitations, they must be used in a permit.

NUMERICAL CRITERIA FOR THE PROTECTION OF HUMAN HEALTH

The U.S. EPA has promulgated 91 numeric water quality criteria for the protection of human health that are applicable to Washington State (EPA 1992). These criteria are designed to protect humans from

cancer and other disease and are primarily applicable to fish and shellfish consumption and drinking water from surface waters.

NARRATIVE CRITERIA

In addition to numerical criteria, "narrative" water quality criteria (WAC 173-201A-030) limit toxic, radioactive, or deleterious material concentrations below those which have the potential to adversely affect characteristic water uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health. Narrative criteria protect the specific beneficial uses of all fresh (WAC 173-201A-130) and marine (WAC 173-201A-140) waters in the State of Washington.

ANTIDegradation

The State of Washington's Antidegradation Policy requires that discharges into a receiving water shall not further degrade the existing water quality of the water body. In cases where the natural conditions of a receiving water are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. Similarly, when the natural conditions of a receiving water are of higher quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. More information on the State Antidegradation Policy can be obtained by referring to WAC 173-201A-070.

The Department has reviewed existing records and is unable to determine if ambient water quality is either higher or lower than the designated classification criteria given in Chapter 173-201A WAC; therefore, the Department will use the designated classification criteria for this water body in the proposed permit. The discharges authorized by this proposed permit should not cause a loss of beneficial uses.

CRITICAL CONDITIONS

Surface water quality-based limits are derived for the waterbody's critical condition, which represents the receiving water and waste discharge condition with the highest potential for adverse impact on the aquatic biota, human health, and existing or characteristic water body uses.

MIXING ZONES

The Water Quality Standards allow the Department of Ecology to authorize mixing zones around a point of discharge in establishing surface water quality-based effluent limits. Both "acute" and "chronic" mixing zones may be authorized for pollutants that can have a toxic effect on the aquatic environment near the point of discharge. The concentration of pollutants at the boundary of these mixing zones may not exceed the numerical criteria for that type of zone. Mixing zones can only be authorized for discharges that are receiving all known, available, and reasonable methods of prevention, control and treatment (AKART) and in accordance with other mixing zone requirements of WAC 173-201A-100.

The National Toxics Rule (EPA, 1992) allows the chronic mixing zone to be used to meet human health criteria.

DESCRIPTION OF THE RECEIVING WATER

The facility discharges to the Columbia River which is designated as a Class A receiving water in the vicinity of the outfall. Other nearby point source outfalls include a storm water outfall, also from the Great Western Malting site. Characteristic uses include the following:

water supply (domestic, industrial, agricultural); stock watering; fish migration; fish and shellfish rearing, spawning and harvesting; wildlife habitat; primary contact recreation; sport fishing; boating and aesthetic

enjoyment; commerce and navigation. Water quality of this class shall meet or exceed the requirements for all or substantially all uses.

SURFACE WATER QUALITY CRITERIA

Applicable criteria are defined in Chapter 173-201A WAC for aquatic biota. In addition, U.S. EPA has promulgated human health criteria for toxic pollutants (EPA 1992). Criteria for this discharge are summarized below:

Table 4 Applicable surface water criteria

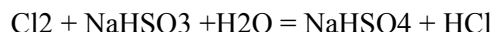
Temperature	Columbia River from mouth to the Washington-Oregon border (river mile 309.3). Special conditions - temperature shall not exceed 20.0°C due to human activities. When natural conditions exceed 20.0°C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C; nor shall such temperature increases, at any time, exceed 0.3°C due to any single source or 1.1°C due to all such activities combined.
pH	6.5 to 8.5 standard units
Toxics	No toxics in toxic amounts

The Columbia River (mouth to Bonneville Dam) is listed in the CWA 303(d) report for not meeting the temperature standard.

CONSIDERATION OF SURFACE WATER QUALITY-BASED LIMITS FOR NUMERIC CRITERIA

Temperature--Historical temperature data has always been below the water quality criterion of 20° C (68° F). A daily maximum limitation of 20° C is proposed for the discharge.

pH --The water quality criteria for pH for the Columbia River is 6.5 to 8.5 with a human caused variation of less than 0.5 units. Data collected by Great Western Malting since April 1997, suggests that the pH of the supply well water is in the range of 6.3 to 6.6 (Kleinfelder, letter dated January 14, 1998). Furthermore, the engineering report on the dechlorination system (September 1997) indicated that hydrochloric acid was produced as a by-product of reaction between chlorine and sodium bisulfite, as shown below:



It is estimated that this reaction would result in a depression of the pH by additional 0.1 to 0.2 units (Kleinfelder, letter dated January 14, 1998).

It is proposed that Great Western Malting Company meet a technology based pH limit of 6 to 9 at the end of the pipe. It is believed that this limit would be protective of the water quality standard.

Toxic Pollutants--Federal regulations (40 CFR 122.44) require NPDES permits to contain effluent limits for toxic chemicals in an effluent whenever there is a reasonable potential for those chemicals to exceed the surface water quality criteria. This process occurs concurrently with the derivation of technology-based effluent limits. Facilities with technology-based effluent limits defined in regulation are not exempted from meeting the Water Quality Standards for Surface Waters or from having surface water quality-based effluent limits.

The following toxics were determined to be present in the discharge: chlorine.

Chlorine: Because of the high total residual chlorine (TRCl) concentration in the effluent, the facility has proposed a treatment system for removing the TRCl prior to discharging the non-contact cooling water into the Columbia River. The treatment system is intended to reduce the effluent TRCl to below detection levels. The water quality criteria for TRCl (WAC 173-201A) is 19 µg/L (acute) and 11 µg/L (chronic) for fresh water. A daily maximum limitation of 11 µg/L is proposed for the discharge. This would ensure protection of the quality of water in the receiving waterbody.

WHOLE EFFLUENT TOXICITY

The Water Quality Standards for Surface Waters require that the effluent not cause toxic effects in the receiving waters. Many toxic pollutants cannot be detected by commonly available detection methods. However, toxicity can be measured directly by exposing living organisms to the wastewater in laboratory tests and measuring the response of the organisms. Toxicity tests measure the aggregate toxicity of the whole effluent, and therefore this approach is called whole effluent toxicity (WET) testing.

Toxicity caused by unidentified pollutants is not expected in the effluent from this discharge as determined by the screening criteria given in Chapter 173-205 WAC. Therefore, no whole effluent toxicity testing is required in this permit. The Department may require effluent toxicity testing in the future if it receives information that toxicity may be present in this effluent.

HUMAN HEALTH

Washington's water quality standards now include 91 numeric health-based criteria that must be considered in NPDES permits. These criteria were promulgated for the state by the U.S. EPA in its National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992).

The Department has determined that the applicant's discharge does not contain chemicals of concern based on existing data or knowledge. The discharge will be re-evaluated for impacts to human health at the next permit reissuance.

SEDIMENT QUALITY

The Department has promulgated aquatic sediment standards (Chapter 173-204 WAC) to protect aquatic biota and human health. These standards state that the Department may require Permittees to evaluate the potential for the discharge to cause a violation of applicable standards (WAC 173-204-400).

The Department has determined through a review of the discharger characteristics and effluent characteristics that this discharge has no reasonable potential to violate the Sediment Management Standards.

GROUND WATER QUALITY LIMITATIONS

The Department has promulgated Ground Water Quality Standards (Chapter 173-200 WAC) to protect beneficial uses of ground water. Permits issued by the Department shall be conditioned in such a manner so as not to allow violations of those standards (WAC 173-200-100).

This Permittee has no discharge to ground and therefore no limitations are required based on potential effects to ground water.

COMPARISON OF EFFLUENT LIMITS WITH THE EXISTING PERMIT ISSUED July 21, 1977

Table 5 Existing and proposed effluent limits

Pollutant or Parameter	Units	Existing Limits	Proposed Limits
Flow	MGD	9.9	9.9
Temperature	°F	68	68
pH	S.U.	In the range of 6 to 9	In the range of 6 to 9
TRCl	µg/L	11	11

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are required (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and the effluent limitations are being achieved.

The monitoring schedule is detailed in the proposed permit under Condition S.2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

LAB ACCREDITATION

With the exception of certain parameters the permit requires all monitoring data to be prepared by a laboratory registered or accredited under the provisions of Chapter 173-50 WAC, *Accreditation of Environmental Laboratories*.

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The conditions of S3. are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-220-210).

NON-ROUTINE AND UNANTICIPATED DISCHARGES

Occasionally, this facility may generate wastewater which is not characterized in their permit application because it is not a routine discharge and was not anticipated at the time of application. These typically are waters used to pressure test storage tanks or fire water systems or leaks from drinking water systems. These are typically clean waste waters but may be contaminated with pollutants. The permit contains an authorization for non-routine and unanticipated discharges. The permit requires a characterization of these waste waters for pollutants and examination of the opportunities for reuse. Depending on the nature and extent of pollutants in this wastewater and opportunities for reuse, Ecology may authorize a direct discharge via the process wastewater outfall or through a stormwater outfall for clean water, require the wastewater to be placed through the facilities wastewater treatment process or require the water to be reused.

GENERAL CONDITIONS

General Conditions are based directly on state and federal law and regulations and have been standardized for all individual industrial NPDES permits issued by the Department.

PERMIT ISSUANCE PROCEDURES

PERMIT MODIFICATIONS

The Department may modify this permit to impose numerical limitations, if necessary to meet Water Quality Standards for Surface Waters, Sediment Quality Standards, or Water Quality Standards for Ground Waters, based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

The Department may also modify this permit as a result of new or amended state or federal regulations.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the State of Washington. The Department proposes that this proposed permit be issued for five years.

REFERENCES FOR TEXT AND APPENDICES

Environmental Protection Agency (EPA)

1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.

1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.

1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. USEPA Office of Water, Washington, D.C.

1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water. EPA/600/6-85/002a.

1983. Water Quality Standards Handbook. USEPA Office of Water, Washington, D.C.

Tsivoglou, E.C., and J.R. Wallace.

1972. Characterization of Stream Reaeration Capacity. EPA-R3-72-012. (Cited in EPA 1985 op.cit.)

Washington State Department of Ecology.

1994. Permit Writer's Manual. Publication Number 92-109

Wright, R.M., and A.J. McDonnell.

1979. In-stream Deoxygenation Rate Prediction. Journal Environmental Engineering Division, ASCE. 105(E2). (Cited in EPA 1985 op.cit.)

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page 1 of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public notice of application was published on March 6, 2002, in *The Columbian* to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

The Department will publish a Public Notice of Draft (PNOD) on April 4, 2002, in *The Columbian* to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Water Quality Permit Coordinator
Department of Ecology
Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30) day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing (WAC 173-220-100).

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, (360) 407-6280, or by writing to the address listed above.

This permit and fact sheet were written by Jacek Anuszewski, P.E.

APPENDIX B--GLOSSARY

Acute Toxicity--The lethal effect of a compound on an organism that occurs in a short period of time, usually 48 to 96 hours.

AKART-- An acronym for "all known, available, and reasonable methods of treatment".

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Ammonia--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation --The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD₅--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD₅ is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass--The intentional diversion of waste streams from any portion of a treatment facility.

Chlorine--Chlorine is used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

Chronic Toxicity--The effect of a compound on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

Clean Water Act (CWA)--The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

Construction Activity--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring --Uninterrupted, unless otherwise noted in the permit.

Critical Condition--The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, thus, its ability to dilute effluent is reduced.

Dilution Factor--A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the percent effluent fraction e.g., a dilution factor of 10 means the effluent comprises 10% by volume and the receiving water 90%.

Engineering Report--A document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Fecal Coliform Bacteria--Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

Grab Sample--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Major Facility--A facility discharging to surface water with an EPA rating score of > 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Maximum Daily Discharge Limitation--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

Minor Facility--A facility discharging to surface water with an EPA rating score of < 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Mixing Zone--An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The area of the authorized mixing zone is specified in a facility's permit and follows procedures outlined in state regulations (Chapter 173-201A WAC).

National Pollutant Discharge Elimination System (NPDES)--The NPDES (Section 402 of the Clean Water Act) is the Federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the State of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both State and Federal laws.

pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Quantitation Level (QL)-- A calculated value five times the MDL (method detection level).

Responsible Corporate Officer-- A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Upset--An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

APPENDIX C--RESPONSE TO COMMENTS

On April 29, 2002, the Department of Ecology has received the following comments from Brent Foster, Columbia River attorney.

Columbia Riverkeeper:

I am writing on behalf of Columbia Riverkeeper to comment on the proposed NPDES permit renewal for the Great Western Malting Company. In contrast to a number of other recent permit proposals by DOE, the draft permit for Great Western Malting appears reasonably calculated to comply with applicable state and federal water quality requirements.

We appreciate that the draft permit does not contain a mixing zone, since for reasons I will not articulate here, we believe that mixing zones for the pollutants at issue in this permit would be impermissible.

We are concerned, however, that the applicant's continuing chlorine discharges pose a threat to aquatic species in the Columbia River regardless of whether these discharges meet numeric water quality standards. The Columbia River and salmonids are clearly exposed to an un-naturally high level of toxic contaminants which are having significant and adverse effects on salmonids and the humans that ingest salmon. The proposed permit should, consistent with the goals of the federal Clean Water Act, require the further reduction and eventual elimination of the applicant's chlorine discharges into the Columbia River. Simply maintaining the same chlorine limit as was included in the applicant's previous permit misses an important opportunity to reduce toxic discharges into the Columbia River. We request that the proposed effluent limit for chlorine be decreased, potentially in a tiered system over the life of the applicants permit to zero.

Ecology:

Ecology has drafted the proposed permit in accordance with existing water quality laws and regulations. The Columbia Riverkeeper has not specified how the existing laws and regulations support the zero discharge limit for chlorine.

Action Taken:

Request denied.